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Assessment of Students Industrial Attachment Programme in Takoradi Polytechnic in the Western Region of Ghana

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Abstract: The objective of the study was to find out whether companies have policies governing the attachment programme. The study was to determine the readiness of companies to accept students on the attachment programme and examined the benefits the students gain from the industrial attachment programme. Descriptive design was used for the study. Students and employees in companies were involved in the study. Questionnaires were used to collect relevant data from companies and students of Takoradi Polytechnic. Data obtained were analyzed using descriptive statistics such as frequencies percentages. The study revealed that majority of the students get placement through personal efforts, intervention of relatives, friends and schoolmates. The government should therefore have a special incentive package (e.g. Tax rebate) to companies which will accept students on industrial attachment. The study further revealed that two months attachment period for the students is woefully inadequate to acquire skills. It therefore recommend that the duration for the industrial attachment should be extended to three months instead of two mouths of the polytechnics so that the students will acquire all the necessary skills before they get back to school.
Keywords: Industrial Attachment, Vocational/Technical Education

INTRODUCTION

Skill acquisition has been an integral aspect of man's life since the beginning of man's existence. Basketry, pottery, blacksmithing and carpentry are some of the trades undertaken to provide man's basic needs to enable man live comfortably. This, therefore, implies that skill acquisition is very vital in any establishment. The culture of every society has one of its aims the acquisition of skills to enhance its standards of living and ensure its survival. Since one of the functions of education is the preservation of society's culture, any educational system, be it formal or informal, must impart practical skills to its people [1]. The people in the society must be given practical training in viable businesses to ensure that there is a production of goods and services, which will lead to the development of the society. Merriam [2], emphasizes that education is the process of human learning by which knowledge is imparted and skills developed. Realizing the important role that practical training plays in the advancement of a society, it come as no surprise when, in 1992, the government of Ghana enacted the Polytechnic Law of 1992, (PNDCL 321) which empowered the Polytechnics to run Higher National Diploma Programmes (and later degrees) to train career or work-oriented middle-level manpower of higher caliber for employment and industry (Polytechnic Law 321).

The government white paper, on tertiary education reforms in Ghana, explicitly states the need for technical manpower development for national growth. The Government of Ghana, (1990) also recognizes the role Polytechnic education could play in the development of middle level man power, which is critical for effective implementation of decentralization policies and planning of the tertiary education reforms in Ghana. The Government of Ghana allude that particular attention be given to programmes, such as applied science and technology, industrial commerce, secretarial, accountancy practices, commercial arts, social services and communication practices. The provision of such programmes was to complete the cycle of technical education and provide capacity for higher-level technical training and practical research (Government of Ghana, 1990).

The 2002 report of the Technical Committee on Polytechnic Education in Ghana affirms that all industrialized countries recognize technical manpower development as a powerful vehicle for economic growth, and a well-developed Polytechnic education supports the technical manpower requirements for all sectors of the economy. Indeed, countries like France and Germany have succeeded in turning around their economy through a well-designed vocational/technical education system called the "dual system". The success stories of Asian and Pacific countries are attributed to the drastic reforms in the technical and vocational

policies, which put special emphasis on apprenticeship training.

The report further sees the vision for Ghanaian Polytechnics as tertiary technical institutions that can contribute positively to national development by providing career-focused education and skill training to the highest level possible, and the provision of opportunities for applied research in close collaboration with business and industry. But the contemporary labour market requires graduates with skills different from those traditionally provided. The main goal of Polytechnic education in Ghana is to inculcate in students analytical and critical thinking skills. To underpin the importance of Polytechnic education, industrial attachment should be a compulsory component of the Polytechnic curriculum. The Higher National Diploma curriculum stipulates that the internship should last for at least six months, three months after the first year and three months after the second year courses respectively.

The internship programme of the polytechnics is faced with a lot of challenges and prominent among them is the placement of the students for attachment. On many occasions, management of some companies and enterprises turn down students' applications for placement. Others who accede to such request sometimes do so as a result of pressure from the students concerned or their parents. The industrial attachment programme is a necessary component of polytechnic education in terms of the development of the required middle-level human capital for the nation. It is also believed that the attachment actually serves to bridge the gap between the classroom and the actual world of work. Furthermore, industrial attachment involves the acquisition of practical work experiences. However, there has been difficulty in the placement of polytechnic students every year for industrial training or internship.

While a good number of students are placed with ease, some find it rather hectic getting placement or do not even get it at all. Also, while some organizations or companies readily accept the request of students, others turn down such requests. Students who are not able to secure places for their attachment do not graduate until their credit requirement for their industrial attachment has been fulfilled. There is, therefore, the need to examine the industrial attachment programme to assess whether companies have policies governing the attachment programme, determine the willingness of companies to accept students on the attachment programme and examine the benefits the students gain from the industrial attachment programme.

As vocational/technical education is crucial to the development of a nation's economy, the Polytechnic education system must adapt measures that would enhance the acquisition of the skills. The instructional process in the acquisition of industrial skills and vocations should link Polytechnics and industry. This is so because many of these institutions lack basic equipment necessary for students to be effective instructional work force, hence the need for the school-industry relationships (industrial attachment).

Noon, Blyton, and Morrell [3], refers to industrial attachment as a scheme in which work tasks are experienced in work environment but without the person assuming the status of a worker. People undergoing training do go to industry to practice what they are being taught. According Noon et al. [3] students in institutions of higher learning who go for the industrial attachment, are likely to meet the same industrial work situation after graduation. This is to let them gather real work experience. These students are not seen or regarded as workers in the organization and so they are not paid. However, sometimes some organizations may decide to give a token for their contribution. Industrial attachment programmes can therefore be seen as a supplement to practical professional training lesson in schools and on the job training of students when they graduate. This means industrial attachment complements effort of lecturers in the institution. When students complete their course and get employed in an organization they are first trained on the job, but having gone through the attachment, this session does not last long or may not be necessary. Those who have not had this attachment will have to do on-the-job training for sometime before they are regarded as full workers of the organization.

Benefits of Industrial Attachment

In business and education partnership, the benefits must be realized by all concerned if not the agreement is not a partnership [5]. Reichheld and Teal [6], point out that employers benefit tremendously because a well trained student employee contributes to the profitability of business.

According to them industry lacks personnel in certain situations and industrial attachment fills these vacancies. This is confirmed by van Egmond and Erkelens [6] when they stated the industrial attachment programmes are capable of solving problems of shortage of personnel in firms and industry. This is because when students go on attachment, even though they are undergoing training, they do real jobs which bring incomes to these companies. In instances where some personnel are not present in their areas, they are covered by these students on attachment. In a contribution, the National Employer Leadership Council said that the companies benefit in a number of ways including higher productivity from attachment students, reduces recruitment cost and lower training and supervision cost. Generally, the students on

attachment are not paid by the company; therefore the product comes at no cost to the companies. In addition Noon et al. [3] stated that companies are assured a better prepared entry-level work force that would reduce training cost, increase productivity and improve products and services.

van Egmond and Erkelens [6], agree with Need [7] noting that businesses look for benefits that affect their operation productivity and profit line. They stated that benefits such as improved public relations, better prepared entry-level employees decreased training costs, increased productivity on potential for local economic development will all affect their bottom line.

Schools also benefit in a number of ways. According Hammer, Berger, Beardsley, and Easton [8] schools benefit by receiving up-to-date equipment, incentives for student attendance, scholarships and an opportunity for students to learn about the real- world application of knowledge and skills. Attachment also leads to higher enrolment in schools. For instance, Alam [9] says vocational enrolments have increase since the 1980's when such partnerships were introduced. According to Dewey [10] it is a systematic and comprehensive effort that helps students to prepare for higher –skilled and high-wage careers, receive top quality academic instruction and gain the foundation skills to purse higher education and lifelong learning. Need [7] in another contribution said that it produces career clarity and enhance employability.

To conclude, it must be pointed out that the benefits of industrial attachment in schools have been made explicit and school should not fail to have an agreement with industry. Dewey [10], recommend that the only way industrial attachment can find permanence in schools is for attachment to be controlled by the educational purposes of the institution.

Problems of Industrial Attachment

Just like any other activity, industrial attachment has its own problems militating against it successful implementation. Crow says that industrial attachment is not regarded as academically legitimate. It is rather viewed as taking time away from the classroom. This view according to him stems from the fact that industrial attachment is vocational inclined. Not until people view industrial attachment as playing a complementary role in the instructional process, the time spent with industry would be seen to be time wasted. Students must however practice what they learnt in theory most especially as the school may not posses all the equipment, they need to have a feel of real work environment. Besides learning a practical skill in an abstract form can never make one proficient in one's special area and this disregards the saying that "practice make for best perfection". Alam [9], also stated that the cost involved and time to complete may differ for some students participating in-co-operative learning. This is particularly where students will have to spend long period at the work side, may be months, before coming back to the classroom. It could also be expensive for those who may have their attachment at places they do not have relatives to stay with [11], also identify two problems as recruiting sufficient number of employers willing to commit themselves to receiving students on attachment. Unless there are industries that are ready to receive students on attachment, it is difficult for attachment programme to contribute the instructional process. Ensuring the learning at the work side is of high quality. Some of the industries may not be of standard and so the quality of training to be received by the students may not be better than what is thought in school.

ANALYSIS AND THE DISCUSSION OF THE RESULTS

From Table 1, it can be observed that giving exposure to the students and opportunities for career development (sharing of ideas) were considered the most important benefits and building of network of contacts were not of prime importance. It must be pointed out that the benefits of industrial attachment in schools have been made explicit and school should not fail to have an agreement with industry. Need [7] recommend that the only way industrial attachment can find permanence in schools is for attachment to be controlled by the educational purposes of the institution.

Table-1: Benefits of Industrial Attachment to Students

Benefit	Responses		Percent of Students
	Frequency	Percent	
Schedule of activities were in line with area of specialization	97	21.2	68.3
Exposure	110	24.0	77.5
Familiarization with workplace routine	81	17.7	57.0
Building network of contacts	70	15.3	49.3
Opportunities for career development/sharing of ideas	100	21.8	70.4
Total	458	100.0	322.5

Source: Field work, 2016

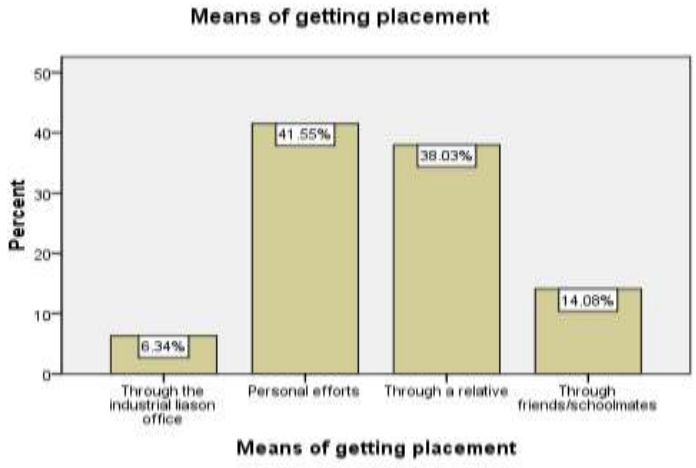

Fig-1: Means of Getting Placement for Industrial Attachment
Source: Field work, 2016

Figure 1 indicates that majority of the students had a place for the attachment either through their own effort or through a relative. However, the liaison office of Takoradi Polytechnic which is in charge of placement of students for the industrial attachment was able to find a place for only a few of the students.

In searching for a place for the industrial attachment, students go through a whole variety of problems. Table 2 seeks to enumerate some of these problems.

Table-2: Problems facing students during the search for a place for the attachment

Problem	Responses		Percent of Respondents
	Frequency	Percent	
No problem faced	3	1.3	2.5
Lack of funds to go round organizations	54	23.6	44.6
Reluctance on the part of organizations to accept students for industrial attachment	58	25.3	47.9
Lack of office space within most organizations	40	17.5	33.1
Policy decision of the organizations not to accept students	39	17.0	32.2
Excessive demand on organizations from students for placement	32	14.0	26.4
Other problems	3	1.3	2.5
Total	229	100.0	189.3

Source: Field work, 2016

A few students, from Table 2, had no problem during their search for a place for the industrial attachment. However, it can be observed that most of the students lacked funds to go round organizations and faced reluctance on the part of organizations to accept students for industrial attachment. Furthermore, lack of office space within most organizations and policy decision of the organizations not to accept students for industrial attachment were also problems students encountered during their search for a place for the industrial attachment.

Table-3: Willingness of Companies to Accept Students on Attachment

Response	Frequency	Percent
Yes	18	100.0

Source: Field work, 2016

On willingness of companies to accept students for industrial attachment, it can be seen from Table 3 that all involved-organizations are ready to accept students for industrial attachment. However, lack of office space within most organizations and policy decision of the organizations were a challenge to accept students for industrial attachment

Strengths and Weaknesses of Industrial Attachment

Table 4 shows the summary of the workers who responded to the issue of the strengths and

weaknesses of the industrial attachment programme in Takoradi Polytechnic.

Table-4: Respondent Summary

	Respondents					
	Valid		Missing		Total	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Strength	11	61.1	7	38.9	18	100.0
Weakness	10	55.6	8	44.4	18	100.0

Source: Field work, 2016

It can be seen that the total number of respondents for the study was 18 but not all of them answered that question. Only 11 (representing 61.1%) and 10 (representing 55.6%) workers, under the *Valid column*, responded to the strengths and weaknesses respectively.

Strengths of the Industrial Attachment

From Table 4a, it can be observed that complementing the effort of existing staff, augmenting the staff strength and training of students for future use were found out to be the strengths of the industrial attachment.

Table-4a: Strengths of industrial attachment

Strength	Frequency	Percent
Complement the effort of existing staff	6	54.5
Augment the staff strength	3	27.3
Training students for future	2	18.2
Total	11	100.0

Source: Field work, 2016

Most of the respondents indicated that the strengths of the industrial attachment to the industries were that students on attachment complement the effort of the existing staff and augment their staff strength in the event of some staff members being on leave. Though some were of the view that the industrial training also had the strength of allowing them to train students for future use, it was indicated by only a few them.

This is confirmed by Hammer *et al*. [8] when they stated the industrial attachment programmes are capable of solving problems of shortage of personal in firms and industry. This is because when students go on attachment, even though they are undergoing training, they do real jobs which bring incomes to these companies. In instances where some personnel are not present in their areas, they are covered by these students on attachment. In another contribution the National Employer Leadership Council said that the companies benefit in a number of ways including higher productivity from attachment students, reduces recruitment cost and lower training and supervision cost. Generally, the students on attachment are not paid by the company; therefore the product comes at no cost to the companies. In addition Need [7] stated that companies are assured a better prepared entry-level work force that would reduce training cost, increase productivity and improve products and services.

Weaknesses of the Industrial Attachment

Table 4b shows distribution of the weaknesses of the industrial attachment programme. The weaknesses of the industrial attachment programme mentioned by the respondents include unruly behavior of students, lack of space and students wanting to be seen as managers instead of trainees

Table-4b: Weaknesses of industrial attachment

Weaknesses	**Frequency**	**Percent**
Unruly behaviour of students	6	60.0
Lack of space	2	20.0
Students wanting to be seen as managers instead of trainees	2	20.0
Total	10	100.0

Source: Field work, 2016

It can be seen from Table 4b that out of the 10 respondents, 6 indicates that unruly behaviour of students was the major weakness of the industrial attachment programme. The remaining 4 representing indicated that lack of space and students wanting to be seen as managers instead of trainees.

Renganathan, *et al*. [12], opined that industrial attachment is not regarded as academically legitimate. It is rather viewed as taking time away from the classroom. This view according to him stems from the fact that industrial attachment is vocational inclined. Not until people view industrial attachment as playing a complementary role in the instructional process, the time spent with industry would be seen to be time wasted. Students must however practice what they learnt in theory most especially as the school may not posses all the equipment, they need to have a feel of real work environment. Donkor et al. [11], in their contribution to the problem stated that despite emphasis on contextual learning, work is not recognized as a vehicle for learning

Besides learning a practical skill in an abstract form can never make one proficient in one's special area and this disregards the saying that "practice make for best perfection". Renganathan *et al*. [12] also expressed that the cost involved and time to complete may differ for some students participating in-co-operative learning. This is particularly where students will have to spend long period at the work side, may be months, before coming back to the classroom. It could also be expensive for those who may have their attachment at places they do not have relatives to stay with.

Renganathan *et al*. [12], also identify two problems; unless there are industries that are ready to receive students on attachment, it is difficult for attachment programme to contribute the instructional process. Ensuring the learning at the work side is of high quality, some of the industries may not be of standard and so the quality of training to be received by the students may not be better than what is thought in school.

Ways of Improving the Polytechnic Industrial Attachment Programme

It is acknowledged that the polytechnic industrial attachment programme is not a perfect programme. Thus, it comes with some drawbacks. However, the programme can be improved upon and that is what Table 5 seeks to illustrate.

Table-5: Ways of improving the polytechnic industrial attachment programme

Way	Responses		Percent of Respondents
	Frequency	Percent	
Sensitizing students on the importance of the industrial attachment	6	37.5	42.9
Frequent supervision by the polytechnic	3	18.8	21.4
Other ways	7	43.8	50.0
Total	16	100.0	114.3

Source: Field work, 2016

As can be seen from Table 5, though most of the respondents indicated that the programme can be improved through several ways, the most prominent ways are to sensitize students on the importance of the industrial attachment and by making frequent supervision visits to the companies.

Renganathan *et al*. [12], refers to industrial attachment as a scheme in which work tasks are experienced in work environment but without the person assuming the status of a worker. People undergoing training do go to industry to practice what they are being taught. According to Blackwell *et al*. [13], students in institutions of higher learning who go for the industrial attachment, are likely to meet the same industrial work situation after graduation. This is to let them gather real work experience. These students are not seen or regarded as workers in the organization and so they are not paid. However, sometimes some organizations may decide to give a token for their contribution. Industrial attachment programmes can therefore be seen as a supplement to practical professional training lesson in schools and on the job training of students when they graduate. This means industrial attachment complements effort of lecturers in the institution. When students complete their course and get employed in an organization they are first trained on the job, but having gone through the attachment, this session does not last long or may not be necessary. Those who have not had this attachment will have to do on-the-job training for sometime before they are regarded as full workers of the organization. For these reasons Polytechnic lecturers are to follow up or supervise students

Cole, Cunnings and Bentt (1992) reviewing studies in Gambia on assessment of trainees on attachment report that industrial attachment sends students out of the classroom and to have a practical feel of what pertains in the real situation (industry). Cole et al further (1992) stressed that Industrial attachment affords the learner an opportunity to practice the theories learnt in the classroom at the industry or workplace. Industrial attachment can therefore be said that it is an activity that bridges the gap between the classroom and industry and follow up of teachers to see if students are really on the job training is necessary.

RECOMMENDATIONS

In view of the above findings, the following recommendations and suggestions are made:

The government should establish a central fund into which all companies in Ghana will contribute some amount, so that companies which take students on industrial attachment are paid from the fund base on the number of students allowed to do their internship in those organizations.

The government should also have a special incentive package (e.g. Tax Rebate) to companies which will accept students on industrial attachment.

In order not to pay lip service to vocational and technical education, it requires that Ghanaian Polytechnics are given the attention that they deserve through proper government funding.

The industrial attachment should be intensified by the industrial Liaison outfit of each Polytechnic to revamp the industrial training. Every student should be monitored to ensure effective practical training.

Industrial Liaison outfit of all the Polytechnics in Ghana should design a training manual which the students will use to record their daily activities while on attachment to make their report writing very easy and systematic.

The necessary logistics should be given to industrial Liaison Officers of the entire Polytechnic by the government in order for them to travel across the country to look for places for students.

Non-governmental organizations (NGOs) should also assist the Liaison Offices to facilitate their work.

The Polytechnics should identify at least two hundred companies which should be used as internship laboratories.

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